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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,256	01/19/2006	Donald Edwin Hargraves	2974/5US	7969
23638	7590	08/05/2008	EXAMINER	
ADAMS INTELLECTUAL PROPERTY LAW, P.A. Suite 2350 Charlotte Plaza 201 South College Street CHARLOTTE, NC 28244			KRAMER, DEVON C	
ART UNIT	PAPER NUMBER			
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/565,256	HARGRAVES ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	DEVON C. KRAMER	3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 28 April 2008.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 3-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 3-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/8/08.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Specification***

1. The disclosure is objected to because of the following informalities: The description of the drawings taken from the prior and submitted in the current application (where they are labeled as prior art in figures 5 and 6) must be properly identified or provided if they are non-patent documents or foreign patents. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the first and second valve elements" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the valve elements" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the first and second valve elements" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 5-9 and 13-18

recites the limitation "the first and second valve elements" in line 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the first and second valve elements" in line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art (figures 5 and 6).

Regarding to claims 10-12, the applicant's admitted prior art teaches the structure of the valve assembly in claims 10 and 11 which is previously rejected in claims 1 and 2. In addition, the prior art also teaches that the valve elements (28) have a selected thickness. It is to be noted that figures 5 and 6 do not disclose that the stroke length of the valve elements is less than about 1.6 or ranged from about 0.19 to about 0.93 times the thickness of one of the valve elements in terms of numerical values. However, since the general conditions of the claimed invention are disclosed in the prior art, the examiner takes position that the claimed numerical values are merely an optimum or workable range which involves a routine skill in the art and would have been obvious to one of ordinary skill in the art. Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made with the motivation of limiting the stroke length of the valve elements to conduct multiple experiments using

different flexible materials with different thicknesses in order to deduce an optimum or workable range for the stroke length.

5. Claims 3 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (figures 5 and 6) as evidenced by Jang (5601118), Riffe (5346373) and Kandpal (5266016).

Applicant's admitted prior art teaches the structure of the valve assembly in claims 10 and 11 which is previously rejected in claims 1 and 2. In addition, the prior art also teaches that the valve elements (28) have a selected thickness. It is to be noted that figures 5 and 6 do not disclose that the stroke length of the valve elements is less than about 1.6 or ranged from about 0.19 to about 0.93 times the thickness of one of the valve elements in terms of numerical values. However, since the general conditions of the claimed invention are disclosed in the prior art, the examiner takes position that the claimed numerical values are merely an optimum or workable range which involves a routine skill in the art and would have been obvious to one of ordinary skill in the art. Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made with the motivation of limiting the stroke length of the valve elements to conduct multiple experiments using different flexible materials with different thicknesses in order to deduce an optimum or workable range for the stroke length. References are added as evidence that it is desirable to limit valve travel to a minimum. Jang (col. 1 lines 40-43), Riffe (col 2 lines 45-51) and Kandpal (col. 1 lines 5-10)

6. Claims 4-9 and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art (figures 5 and 6) in view of Brand et al. (US Pat. No. 6,089,272) and Knox et al. (US Pat. No. 5,217,797).

Regarding claims 4-8 and 13-17, the applicant's admitted prior of the valve assembly does not disclose the material the valve elements are made out of. However, the reference of Brand et al., which is directed to a check valve assembly, and the reference of Knox et al., which is directed to a diaphragm construction for a pump or a valve, discloses that the valve element could be constructed from an elastomeric material, ethylene propylene diene terpolymer (diene side chain), fluoroelastomer, perfluoroelastomer, and silicone. *See Brand et al. column lines 28-35; and Knox et al. column 1 lines 50-60, columns 4 line 61 to column 5 line 6, and column 11 claim 2.* It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have made the vale elements of the admitted prior art from elastomer merely to provide a durable flexible material for the valve.

Regarding claims 9 and 18, Brand et al. teaches in the disclosure that the valve elements have a durometer hardness from about 30 to 100 on the shore A scale, which covers the range claimed. *See Brand et al. column 3 lines 35-40.*

#### ***Response to Amendment***

The declaration under 37 CFR 1.132 filed 4/28/08 is insufficient to overcome the rejection of claims 3-20 based upon applicant's admitted prior art as set forth in the last Office action because: in the examiner's opinion, it is well known to limit valve travel as shown by the references to Kandpel, Riffe and Jang. Further, the examiner maintains

that applicant is merely utilizing optimization of the prior art to create a valve with less travel.

***Response to Arguments***

Applicant's arguments filed 4/28/08 have been fully considered but they are not persuasive. Applicant argues that the valve of the prior art does not contact the bottom of the compartment when in the open condition. Please note that the drawings provided by applicant show that the valve member is against the valve compartment when open. Please note that applicant has not provided any structure that differs the instant invention from the prior art other than claiming dimensions and sizes of the parts which is merely optimization of essential working parts.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to DEVON C. KRAMER at telephone number (571)272-7118.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
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